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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,624

08/16/2006

Kenichi Iwamoto

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EXAMINER

CHARLES, MARCUS

ART UNIT

PAPER NUMBER

3682

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,624	Applicant(s) IWAMOTO ET AL.	
	Examiner Marcus Charles	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 16 August 2006 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>16 August 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is the first action relating to serial application number 10/589,624 filed 08/16/2006.

Claims 1-7 are currently pending.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The examiner has accepted the drawing filed with this application as formal drawing.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP (2002-213438) to Ueno et al. Ueno et al discloses a double row roller bearing comprising an outer member (1) having an inner peripheral surface (1a) formed of a plurality of rows of rolling surfaces, an inner member (2) formed with opposite rolling surfaces (2a), a plurality of rows of rolling elements (3) interposed between the opposed surfaces; the outer member is provided with sensor (8) for detecting the amount of preload in the bearing.

In claim 5, note JP (2002-213438) discloses the sensor (8) is a thin film.

In claim 7, it is apparent that the predetermined preload can be obtained by utilizing the signal from the sensor.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP (2002-213438) to Ueno et al. in view of JP (64-34602). Ueno et al. fails to disclose the sensor is a piezoelectric element. Ueno et al. fails to disclose the sensor is a piezoelectric element. JP (64-34602) discloses a bearing assembly device (1) comprising a piezoelectric sensor (12, 13) for constantly accurately detecting a preload level. Therefore, it would have been obvious to one of ordinary to modify the sensor of Ueno et al. so that it is a piezoelectric sensor in view of JP (64-34602) for constantly accurately detecting a preload level.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP (2002-213438) to Ueno et al. in view of McLarty et al. (4,657,412). Ueno et al. fails to disclose the sensor is a piezoelectric element. Ueno et al. fails to disclose the sensor is a strain gauge. Ueno et al. fails to disclose the sensor is a strain gauge. McLarty et al. discloses a bearing assembly device having a strain gauge sensor device for accurately detecting a preload level for accurately at lower manufacturing and maintenance cost. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to

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modify the sensor of JP (2002-213438) so that it is a strain gauge in view of McLarty et al. for accurately detecting a preload level for accurately at lower manufacturing and maintenance cost.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP (2002-213438) to Ueno et al. in view of JP (2001-254742) to Itomi et al. Ueno et al. fails to disclose the sensor is a magnetostrictive element. Ueno et al. fails to disclose the sensor is a magnetostrictive element. JP (2001-254742) discloses a bearing assembly device having a sensor that is a magnetostrictive element in order to increase the sensitivity of the preload and to accurately measure the preload. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the sensor of JP (2002-213438) so that it is a magnetostrictive element in view of JP (2001-254742) in order to increase the sensitivity of the preload and to accurately measure the preload.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Denny, Jr. et al. (6,532,666) in view of. Ueno et al JP (2002-213438) to Ueno et al. Denny, Jr. et al. discloses a wheel bearing device comprising a double row roller bearing comprising an outer member (2) having an inner peripheral surface (14) formed of a plurality of rows of rolling surfaces, an inner member (6/38/40) formed with opposite rolling surfaces (48), a plurality of rows of rolling elements (56)) interposed between the opposed surfaces; the inner member includes a hub and the inner race mounted on the outer periphery of the hub) and is fixed to the hub by crimping (see 34) an inboard end of the hub. Denny, Jr. et al. fails to disclose the outer member is provided with sensor

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(8) for detecting the amount of preload in the bearing. JP (2002-213438) discloses bearing assembly comprising an outer member (2) provided with sensor (8) for detecting the amount of preload in the bearing and for preventing damage to the bearing due to excessive high preload. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the bearing of Denny, Jr. et al so that the outer member includes a sensor in view of JP (2002-213438) in order to detect the amount of preload in the bearing and for preventing damage to the bearing due to excessive high preload.

Citation

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note the prior art cited in attached PTO Form 892.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus Charles whose telephone number is (571) 272-7101. The examiner can normally be reached on Monday-Thursday 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ridley Richard can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marcus Charles

/Marcus Charles/

Primary Examiner, Art Unit 3682